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FIRST YEAR COLLEGE FRENCH THROUGH AN AUDIO-LINGUAL PROGRAM.

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THE EFFECTIVENESS OF PROGRAMED LEARNING IN AN AUDIOLINGUAL FRENCH COURSE WAS INVESTIGATED. THE EXPERIMENT INTENDED TO DETERMINE WHETHER A SELF-INSTRUCTIONAL COURSE WAS MORE EFFECTIVE THAN A COURSE TAUGHT UNDER TRADITIONAL CLASSROOM CONDITIONS, WHETHER THE PERCENTAGE OF STUDENTS DROPPING OUT COULD BE REDUCED SIGNIFICANTLY, AND WHETHER STUDENT INTEREST COULD BE MAINTAINED. A COMPARISON BETWEEN THE EXPERIMENTAL AND CONTROL GROUPS SHOWED THAT--(1) A SMALLER PERCENTAGE OF STUDENTS DROPPED THE COURSE, (2) LOW APTITUDE STUDENTS WHO COMPLETED THE COURSE DID WELL, (3) A GREATER PERCENTAGE FROM THE EXPERIMENTAL GROUP THAN FROM THE CONTROL GROUP CONTINUED IN AND COMPLETED THEIR 2D YEAR FRENCH, (4) ALL STUDENTS OF THE EXPERIMENTAL GROUP ATTAINED EXCEPTIONAL ACCURACY IN PRONUNCIATION, (5) GENERALLY THE STUDENTS FROM THE EXPERIMENTAL DID AS WELL AS THE CONTROL GROUP, AND SIGNIFICANTLY BETTER IN THEIR MASTERY OF THE SPOKEN LANGUAGE AND IN THEIR VARIETY AND ACCURACY OF GRAMMATICAL STRUCTURES, (6) AT THE END OF THE 2D YEAR STUDENTS FROM THE EXPERIMENTAL GROUP HAD MAINTAINED THEIR STANDING IN RESPECT TO THE STUDENTS FROM THE CONTROL GROUP, (7) LOW-APTITUDE STUDENTS ACHIEVED RESULTS THAT COMPARE WELL WITH THOSE OF MORE GIFTED COLLEAGUES, AND (8) A COMPLETELY SELF-INSTRUCTIONAL PROGRAM, WITHOUT A TEACHER, IS NOT FEASIBLE. THIS ARTICLE IS A REPRINT FROM THE "INTERNATIONAL REVIEW OF APPLIED LINGUISTICS IN LANGUAGE TEACHING," VOLUME 4, NUMBER 1, 1966. (AUTHOR)

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FIRST YEAR COLLEGE FRENCH THROUGH AN AUDIO-LINGUAL PROGRAM

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FIRST YEAR COLLEGE FRENCH THROUGH AN AUDIO-LINGUAL PROGRAM [1])

by
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Les auteurs rapportent les résultats d'une expérience effectuée à l'Université d'Akron, qui avait pour but de déterminer l'efficacité d'un cours programmé d'initiation au français parlé (ALLP Revised French Program). Le programme étant en grande partie auto-instructionnel, il importait de savoir, entre autres, si le programme pouvait:

- donner un enseignement meilleur que celui des cours non programmés.
- maintenir l'intérêt et l'assiduité des élèves.
- permettre aux enseignants un rendement accru.

D'une comparaison entre le groupe expérimental et le groupe de contrôle, il a été possible de tirer un certain nombre de conclusions:

- Les élèves, et en particulier les moins doués, ont été moins nombreux à abandonner l'etude du français.
- Tous les éléves peu doués qui ont terminé le cours ont été notés "bien" ou "excellent".
- Il y a eu un plus grand nombre d'élèves "expérimentaux" que d'élèves "contrôle" à poursuivre et terminer la deuxième année en enseignement traditionnel.
- Tous les élèves "expérimentaux" ont atteint une exactitude de prononciation exceptionnelle.
- Sous tous les rapports, les élèves "expérimentaux" ont égalé leurs camarades "contrôle", ils les ont dépassés pour la maîtrise de la langue parlée, ainsi que pour la variété et la justesse de leurs structures grammaticales.
- A la fin de la deuxième année d'études, les anciens élèves "expérimentaux" étaient toujours à égalité avec les anciens élèves "contrôle".
- Avec le programme expérimental, les élèves les moins doués ont obtenu d'aussi bonnes notes que ceux qui étaient plus doués.
- Un programme complètement auto-didacte n'est pas encore praticable.
- Certaines modifications du programme, ainsi que l'emploi de machines à enseigner auraient amélioré le cours, surtout en rendant plus efficace l'auto-évaluation par l'élève de sa performance syntaxique.

Die Verfasser teilen Ergebnisse eines an der Universität Akron durchgeführten Experiments mit, das die Leistungsfähigkeit eines programmierten Anfängerkurses in Französisch bestimmen sollte (ALLP Revised French Program).

Da dieses Programm zu einem großen Teil auf dem Prinzip des Selbstunterrichts beruhte, ging es darum, zu erfahren, ob es:

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[1]) The research reported herein was supported by a grant from the U. S. Office of Education, NDEA Title VI.

– eine den nicht-programmierten Kursen überlegene Unterrichtsweise darstellt;
– Interesse und Ausdauer der Schüler wachhält;
– den Lehrern größere Wirkungsmöglichkeiten gestattet;

Ein Vergleich zwischen Versuchs- und Kontrollgruppe legte eine gewisse Zahl von Schlußfolgerungen nahe:

– Weniger Schüler, vor allem die geringer begabten, brachen vorzeitig das Französischstudium ab.
– Auch die wenig begabten Schüler beendeten den Lehrgang mit „gut" oder „ausgezeichnet".
– Es kamen ins zweite Jahr (mit traditionellem Unterrichtsverfahren) mehr Versuchsschüler als Kontrollschüler.
– Alle Testschüler erreichten eine außergewöhnliche Sauberkeit in der Aussprache.
– In jeder Hinsicht erreichten die Testschüler ihre Kameraden aus der Kontrollgruppe, übertrafen diese sowohl an Sprechfertigkeit als auch an Abwechslungsreichtum und Exaktheit der grammatischen Strukturen.
– Am Ende des 2. Studienjahres hatten die ehemaligen „Testschüler" in jeder Beziehung das gleiche Niveau wie die ehemaligen Schüler der Kontrollgruppe.
– Dank des Experimentalprogramms erzielten selbst die schlechtesten Schüler ebenso gute Noten wie begabtere.
– Ein ausschließlich auf autodidaktischem Prinzip basierendes Programm ist noch nicht durchzuführen.
– Gewisse Modifikationen des Programms, z. B. der Einsatz von Lehrmaschinen, hätten den Kurs noch verbessern können in Hinsicht auf eine wirksamere Eigenbewertung der syntaktischen Fertigkeiten durch den Schüler.

Introduction

Programmed learning, which has been applied successfully in many learning situations and with a variety of age groups, seems to offer definite advantages in foreign language learning. Proponents of this method contend that any subject materials can be mastered regardless of the student's aptitude. The main features of programmed learning – learning by minimal steps, immediate reinforcement of each response, and progression at the learning rate of each individual student – permit more effective learning than under traditional classroom and home-study conditions. More effective learning, particularly by students of low aptitude, should retain a greater number of them in the course. Furthermore, the students should need less time to master the knowledge or the skill being taught. Since programmed learning is largely self-tutorial, it should also mean a reduction in teaching costs by permitting a staff member to supervise a greater number of students.

Greater mastery of the oral skills is expected through the application of programming features to learning a foreign language. Pronunciation and other "skill aspects" of language should prove particularly amenable to techniques of operant conditioning. On the other hand, one could think that programmed self-instruction was incompatible with foreign language learning. Language is a means of communication with other people. In view of the absence of a commu-

nication function in self-instruction, can a foreign language be self-taught as effectively as other subjects?

Furthermore, immediate confirmation, one of the essential features of programmed learning, is difficult to apply in an audio-lingual course. The student's oral response must be evaluated for phonetic accuracy, proper intonation, or grammatical correctness. No device exists that can automatically perform such an evaluation and inform the student whether his response is acceptable or not. The student must be taught to compare his response with the model and thus reinforce himself. In a sense, the learner controls his own reinforcement. Will then programmed learning be effective with a language program in which written texts play a decidedly subordinate role? Can every student be conditioned to evaluate his oral responses?

To investigate these questions, an audio-lingual program in beginning French was produced under Project ALLP II[2]), directed by F. Rand Morton of the University of Michigan. In this program, students did the bulk of their work in the language laboratory; once a week they displayed their knowledge in a twenty-minute interview with an instructor. The first trial of this program at the University of Akron in 1963–64 demonstrated its feasibility: In spite of the lack of classroom instruction, students learned successfully from the program.

However, the program had weaknesses. The experimental students, though they excelled in speaking, were not up to the desired level in writing skills. In addition, the implementation of the program needed improvement.

A *Revised French Program* was designed to overcome the shortcomings of the original Program – deficiencies in pronunciation, poor control over a number of morphemic structures, student discouragement, sub-standard writing skills and only average performance in reading. The present paper reports on the experimental use of this Revised Program in 1964–65 with a college class and with an adult evening class.

The second trial use was designed to test the Program and to establish the most effective administrative procedures in view of eventually handling greater numbers of students without increase in staff. The question of total self-instruction versus various combinations of class and laboratory situations was considered and several possibilities of staffing the class and laboratory were investigated.

The major purpose of the trial was to determine the extent to which the *Revised French Program* attained its primary objectives:

– to improve student performance in all four skills over the results usually obtained in classes taught with good audio-lingual materials and methods;
– to reduce the percentage of students dropping out of first-year classes.

Some subsidiary questions were also investigated:

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[2]) ALLP: *A*udio-*L*ingual *L*anguage *P*rogram.

– How well graduates of the program performed in the Intermediate French course.
– What effect reading and writing had on pronunciation and performance in general.
– Whether a shorter program was feasible for gifted students.

Procedures

1. Student Population

The experimental population consisted of University of Akron students, twenty-six from the Liberal Arts College and thirty-eight from the Evening College. Sixty-eight students were registered in the control sections. Results on the *Modern Language Aptitude Test* (Carrol-Sapon) showed that the majority of the students in both the experimental and control sections fell into the lower half of the aptitude scale:

Aptitude Percentile	Experimental	Control
99–75	20 %	19 %
74–50	23 %	19 %
49–25	28 %	43 %
24–0	28 %	19 %

Experimental:		Control:	
Mean	47.7	Mean	44.6
Median	45	Median	40
Mode	15	Mode	25

The language aptitude of the experimental students enrolled in this second trial was lower than that of the earlier trial group.

Aptitude Percentile	1963–64	1964–65
99–50	62 %	43 %
45–5	36 %	56 %

Previous experience with French was usually of no help to the students of the experimental or control sections. At Akron, all students with previous experience of French are given a placement test to determine whether they can start their college French studies at a second- or third-year level. As an incentive credit is given for previous high school training if the student succeeds in advanced courses. In consequence, one must conclude that students assigned to Beginning French are those with either poor preparation or, more often, with low aptitude.

2. Course materials

The *Revised French Program* consists of approximately fifty hours of recorded materials:

1. Part I, 350 frames, 15 hours of recording, is divided into 20 Problems, Reading Aloud, and Intonation Features. Each problem, designed to teach a sound or the characteristic features of a group of sounds, consists of several sections: discrimination, vocalization, phonemic symbol, syntax, and vocabulary. The smallest working unit is called a frame and consists of approximately three minutes of recording.

Part I is designed to teach native-like French pronunciation, that is, a pronunciation which approximates that of the native close enough that the speaker would be accepted by the French as a welcome outsider. It attempts to achieve reasonable accuracy with each French sound. Phonological features are taught so that the student habitually will follow such major features of French intonation as rising and falling pitch where appropriate, particularly in a multiple-phrase utterance; phrasing; and those features, called linking and liaison, that characterize the transition from one word to another. He is taught to avoid specifically English features like the characteristic English pitch slope, stress through loudness or pitch, and English word boundaries. However, the training does not embrace all the French intonation patterns as such.

It is best to be clear what Part I does *not* do. For instance, it does not attempt to teach writing. The section entitled *Syntax* is not a systematic treatment of French grammar, but merely uses the sound under study in a selected number of syntactical structures. This section attempts to bring the student to the awareness that the syntax of a language consists of a number of sounds and combinations of sounds. The section entitled *Vocabulary* does not aim to teach all the vocabulary items used in this or the remaining parts of the program. It presents only a few, useful utterances in order to give the student the feeling that he is learning French and not just meaningless sounds. But pronunciation remains the primary objective of part I.

The reading frames teach the sound-symbol association necessary for reading aloud.

2. Part II, 140 frames, 5 hours of recording, teaches a limited vocabulary. It presents some of the elements needed to learn the syntactical structures in Part III.

3. Part III, 500 frames, 27 hours of recording, teaches the basic structures needed to speak and understand the informal language. Each structure is introduced in its spoken form first, then it is presented in writing. It is contrasted with the relevant English structure to bring out points of conflict. The frames begin by making the oral forms automatic, and only in the latter part of the problem do written stimuli and responses appear for practice in writing. Only short oral forms are used. Oral exercises in which the stimulus or response

exceeds five or six syllables were found too difficult without visual support. Many students cannot remember and manipulate long utterances.

Supplemental exercises have been added in the form of English stimuli requiring French responses They are not translations in the usual sense of the word, since diverse stimuli elicit the same pattern. These exercises set the difference between the native and target languages in sharpest contrast. Many students prefer to do these exercises first, immediately after the grammatical explanations. They feel these contrastive drills best bring the essential structural element to awareness.

Part III also contains thirty dialogues, short everyday conversations which could be heard on the streets of any city. Very informal expressions and very informal language style have of course been omitted. These dialogues further expand the student's vocabulary. They also reflect a few of the cultural patterns characteristic of French society. The dialogues are designed to lead the student from strictly controlled responses to free expression through models of conversation.

Twenty reading passages entitled *Le Français, cette étrange créature* ... and averaging a thousand words each have been interspersed in Part III. They introduce the student to reading for comprehension.

4. Part IV, 22 conversations, 3 hours of recording, is an extension of the dialogues of Part III. They fulfill the same purpose as the dialogues and are based on the same principles. In addition, the accompanying exercises attempt to lead the student from mimicry to generating language.

A student booklet approximately one thousand pages long accompanies the taped materials. It contains a record of each frame and the necessary information for using the tapes: the reading materials, the grammatical explanations, a model of each pattern being drilled in a given frame, together with the necessary directions. The stimuli and the responses of about forty per cent of the frames drilling the basic patterns are transcribed for use as writing exercises. In the respective appendices, the dialogues and conversations are printed with their exercises. Also included in the appendices are the French-English vocabulary of non-cognates and a summary of grammar and verb tables.

3. Implementation

During the first semester the day section met for six to eight hours in the language laboratory and for one hour in class per week. The night section met for four to six hours in the language laboratory, unless the student took the tapes home, and for a half-hour class display session each week. Weekly assignments were given and every effort was made to hold the student to them.

During the second semester, students spent an average of three to four hours in the laboratory. The students in the night section spent one hour a week in class, while the day students met for two hours in class. In addition, it is estimated that they spent another four hours a week with home preparation.

Daily lab attendance was kept, with an indication of how much had been achieved each day. Each student was monitored by the attendants and occasionally by the instructor. The attendants kept a record showing whether or not the performance was acceptable, listened to the tests, noted the quality of the responses, and then reported their impressions to the instructor.

Class meetings, called display sessions, were arranged in small groups. At first, groups of four were established but they soon gave way to larger groups of about seven to nine. Students were reluctant to meet in smaller groups.

The display sessions were conducted by the Project Director and occasionally by an undergraduate student majoring in French. The stated purpose of the display sessions during parts I and II was to demonstrate the student's mastery of pronunciation. The actual purpose was as much to convince the students that they were learning and making progress as to check their control of speech. Few explanations were given, and these only when they were requested. However, encouragement was lavish; participants constantly needed to be reassured that they were learning. During Part III, the display sessions emphasized syntax through pattern drills, which could be turned into small conversations between two students.

Slides representing scenes of everyday French life and correlated with previously learned vocabulary were used very early in the program. They served as the basis of lectures to give practice in oral comprehension. Ten to twenty color slides concerning a topic related to the reading passage were used for a fifteen to twenty-minute presentation. They proved to be an effective device to give the student the assurance that he was learning French. They demonstrated to him the extent to which he understood. He saw vocabulary and structure in meaningful relationship.

The reading passages were discussed for half an hour a week. The student had an opportunity to ask questions about what he failed to understand, and then was required to answer detailed questions about the material.

The dialogues served as the basis of questions addressed to the students. Later, the dialogues and conversations were reproduced by pairs of students or served as models for similar conversations between them. The instructor supervised these groups and corrected all errors he heard. These conversations may not always have been correct, but once the ice had been broken, they made up in liveliness and enthusiasm for what they lacked in accuracy.

The display sessions served several purposes.

- They established short-range goals through weekly assignments.
- They demonstrated how much was being learned and thus motivated the student.
- They established a familiar classroom atmosphere with its discipline, its recitations.
- They served occasionally to shape certain patterns through response differentiation.

Tests were given in the laboratory. During Part I, the student's responses were recorded for later analysis. During Parts III and IV, written tests were designed to check mastery of the grammatical structures. Each test consisted of thirty to fifty items to be completed in thirty minutes. A grade of 80 per cent or better was required for admission to the next assignment. If results were unsatisfactory, the test could be taken again but only after the necessary review. Comprehension of the reading assignments was similarly tested.

At the end of the first semester, the experimental students were interviewed by Professor Edgar Mayer of the University of Buffalo; at the end of the second semester, they were again interviewed by Professor Frederick Eddy of Georgetown University. The students' attitude was investigated because of certain complaints about time involvement.

Results and Discussion:

The *MLA Cooperative Foreign Language Test, 1963,* was administered to all experimental and control students at the conclusion of the academic year. This test consists of four parts testing listening comprehension, speaking, reading, and writing.

The results in listening comprehension and reading are of an objective nature; they were corrected by student assistants armed with the appropriate scoring keys. Half of the writing test is of an objective nature. The other half requires some type of composition in the form either of individual sentences or a complete dialogue. A key and scoring points are furnished as guidelines for the correction of each sentence. Scoring is controlled so that the subjective element is reduced to a minimum.

A student majoring in French corrected all writing tests. In addition, a second student majoring in French corrected the composition to establish reliability for that portion which required most subjective judgment. All students in both control and experimental sections received identical treatment: the results permit objective comparison.

In the speaking part of the examination, several elements are tested: mastery of the phonetic and intonation features in free speech, mastery of the phonetic features in reading aloud from a printed text, fluency, mastery of vocabulary and structures. The scoring sheet assigns specific values to the various elements. Thus again, subjectivity on the part of the scorers is reduced to a minimum. The speaking test was corrected by two staff members, who evaluated each student individually. Since neither of them had taught a first-year section during the year, they did not know who the students were and should be considered objective evaluators. Their scores were then averaged.

The national norms that have been established for this test are stated as raw scores, converted scores, percentile bands, and mid-percentile ranks. For purposes of analysis in this study, the mid-percentile ranks are used.

By analyzing the test results for the four skills we can judge the effectiveness of the program.

Twenty-seven experimental students finished the course and served as the subjects for this analysis. Thirty-one students completed the course in the control sections. The following discussion will deal first with the results obtained in the experimental section and only later make the comparison with the control sections.

A. Results of the Experimental Group

Table 1

MLT Percentile Scores for the Experimental Class

	Listen	Speak	Read	Write
Day students	64.7	87.0	45.3	53.9
Night students	59.3	82.6	56.0	58.8
Combined	62.5	85.2	49.7	55.9

Discussion

The comparison of performance between the day students and the night students is of interest. In the oral skills, the day students were superior to the night students, with a statistically significant difference for speaking. In the written skills the night students were superior to the day students, with a statistically significant difference in reading. The superior performance of the day students in speaking reflects the additional class contact: the day students spent two hours a week in class whereas the night students spent only one. This result argues in favor of class meetings with an instructor, where the spoken language is used and practiced as a means of communication.

The superiority of the night students in the written skills is more difficult to explain. Being older students, they seem to have relied more on the written language and to have prepared the reading and writing assignments more thoroughly, especially since they had less access to tape recorders than did the day students. The level of maturity of the night students might well be another factor that influenced the reading scores: they were professional people with previous college training.

The linguistic aptitude of the student population must be considered in evaluating the results. Compared with the student population in 1963–64, the students in the experimental section were decidedly inferior; yet their scores were on the average much higher. Credit should go to the revisions made in the program as well as to the way in which it was administered.

A number of observations can be made about each skill:

1. Speaking. The average percentile of 85.2 demonstrates excellent performance of the experimental students, half of whom scored in the 90 percentiles. Of course, this fact reflects the audiolingual emphasis of the program. The excellence in speaking was corroborated by both outside evaluators, Drs. Mayer and Eddy. Professor Mayer praised the students achievements as "... strikingly good. The range of achievement between the best and the worst is narrow. The weakest student would certainly rate B in a conventional audio-lingual course."[3])

Professor Eddy's 1964 report was an enthusiastic endorsement of the students' ability to speak. His report on the results in 1965 likewise praises the speaking proficiency of the students. Commenting on their pronunciation, fluency, grammar, vocabulary, and comprehension, he says, "In general, they show improved performance, in spite of the fact that the 1965 interviews were given four weeks earlier than in 1964, well before the end of the course, and before there had been much practice in free conversation."[4]) In his impressions about the reading, he says, "In general the student's native-language phonology has been largely replaced by something approximating French phonology, and the native English does not become dominant even under the heavy pull of reading from a printed page. In some cases the effect is very French."[5])

The most glaring mispronunciations occurred in reading, where the student tended to pronounce graphemic signals which are not normally pronounced, such as the *s* added to indicate a noun plural. The reason is probably the introduction of reading at the end of Part I, at a time when new pronunciation habits are not yet very firmly established. This observation, however, does not warrant placing the reading at a later point. This problem would be most easily remedied through the creation of tapes accompanying the reading selections in Part III. This tendency, it is worth noting, was more prevalent among students who had had French in high school than among those who had never had French before.

2. Listening Comprehension and Writing. The scores in listening comprehension (62.5) and writing (55.9) demonstrate relatively good performance compared to the national norms. In both of these areas the original program showed deficiencies. It can be concluded that these deficiencies have been effectively remedied in the revised program.

Because of the extensive listening practice students in the experimental sections received throughout the program, it could have been expected that results similar to those on the speaking test would be achieved. That this was not the

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[3]) Professor Edgar Mayer, unpublished report on his observations of the ALLP course, 1964.

[4]) Professor Frederick Eddy, unpublished report on his observations of the ALLP course, 1965.

[5]) *Ibid.*

case must be attributed to the test itself, which favors the formal language and vocabulary standard in most textbooks. The program, however, stresses primarily the informal language and a vocabulary geared to what a traveler is likely to hear in France.

The revised program also successfully remedied earlier weaknesses in writing by including many writing drills.

3. Reading. The average scores of 56.0 for night students and 45.3 for day students in reading reflects average competence as measured against the national norms. These results are somewhat surprising, since the reading selections prepared for the revised version were of a difficulty exceeding that of standard reading texts in first-year French. Professor Eddy's evaluation did not note any such weakness in reading comprehension. On the contrary, his tables of the results indicate a B average for comprehension.

The mistakes made by the experimental students in the reading test were analyzed and compared with those made by the control students. This comparison indicates that the apparent weakness occurred in the first twenty-five questions, which constitute nothing more than a vocabulary test, and one, moreover, that reflects a vocabulary selection greatly different from the informal vocabulary taught in the program. The only average performance on reading must be attributed to the test; this conclusion is supported by the fact that second-year French students who had studied by the programmed method during their first year and at that time had obtained average percentile ratings on the reading test attained the high level of performance shown by all classes at the end of their second year's study.

As for differences in performance between the night students and the day students, we have seen that they may reflect another factor besides maturity and life experience. The night students considered reading more important than speaking. They also spent more time with the reading and its vocabulary since these materials were more readily available to them than the oral ones. Consequently, the implementation of the program for night students should place greater stress on reading and its vocabulary than with the day students.

E. Comparison of Experimental and Control MLT Results

The day section of the experimental group in the following analysis is compared with the control group (also day students). The night students are excluded since they compose a markedly different student population, with different problems.

Unfortunately, a high percentage of the control students dropped out, and only the more successful ones are represented in the MLT results. In order to equate at least in part the experimental and control groups, the results cited here do not include four experimental students who at one time or another asked to abandon the course but were persuaded to stay.

Table 2 compares the mean results of the experimental students with the control students:

Table 2

Mean Percentile Scores on Final MLT 1964–65 – lst year

	Listen	Speak	Read	Write
Control	74	81	71	59
Experimental	69.4	90.5	51.6	63.0

Table 2 shows the results obtained from the control and experimental groups on the MLT administered at the completion of the first year of study. The differences between the groups on the four subtests and their levels of significance are as follows:

Listening: No difference
Reading: Control superior to Experimental ($P < .05$)
Speaking: Experimental superior to Control ($P < .05$)
Writing: Experimental superior to Control ($P < .05$)

C. Second Year Results

The original proposal suggested investigating how students, after having completed the first year of French with the original program, were performing in a second year course taught in a traditional manner.

During the summer of 1964, three students completed the second year in a six-week course offered at the University of Akron. One of them completed his third year of French in the academic year 1964–65 and has chosen to specialize in French. Twenty-four other students of the original experimental group enrolled in various sections of the second-year French course during the academic year 1964–65; sixteen of them enrolled in the honors section of the course. Eighteen of the twenty-four students completed the course.

The second year French course is divided into one honors section and several other sections. Admission to the honors section requires permission of the instructor if the student has taken his first year of French at the University of Akron; otherwise the student must attain a total of 200 on the scaled scores of the Cooperative Placement Test. The honors section differs from the other sections in that greater emphasis is placed on the spoken language and the reading program is expanded.

The program of the second year consists of the following materials: *Le Petit Prince* by Saint-Exupéry (honors section only) and *Contes de l'inattendu*, edited by Parker (Heath) are used for intensive reading. For further drill in writing, both texts are accompanied by a pattern-drill booklet requiring written answers. Grammar review is based on Mulhauser-Desberg, *Le Français d'Aujourd'hui* (Ginn).

Camus' *l'Etranger*, *La France et les Français* by Brodin and Ernst (Holt, Rinehart, Winston), Pagnol's *Topaze*, and Daudet's *Lettres de Mon Moulin* (honors section only) are used for extensive reading.

Table 3

Mean Percentile Scores on Final MLT 1964–65 – 2nd Year

	Listen	Speak	Read	Write
Control	74.2	73.0	61.2	63.6
Experimental	69.2	77.6	62.4	49.6

Table 3 shows the results obtained from the second year MLT for the control group for two years and the experimental group which had completed the second–year French under a traditional system. Only in speaking, where the experimental group still demonstrates its superiority, and in writing, where the control group performs more capably, are statistically significant differences ($P < .05$) found in the scores of the two groups.

These results indicate that even when differences exist initially in the performance of students taught by the two methods, these differences are readily eliminated during further work in a traditionally taught French course. The performance by the experimental group on the second year reading test most explicitly demonstrates this point.

On the basis of the two-year results, there is little difference, except for speaking, in the performances of students taught French by either a programmed or a traditional method.

These conclusions are substantiated by Professor Eddy's report on his observations of the second-year class.

"The discussion, entirely in French, centered around a tale by Daudet. A little over half of the group had done their first year with the ALLP in 1963–64. I could detect no difference between their handling of the material and the language and the performance of those prepared for this course in other ways. This corresponds with Dr. Mueller's impressions, and apparently means that in the acid test, preparing for good second year work, the ALLP compares favorably with solid high-school preparation or a good first year college French course." [6])

Every innovator would like to be able to report that his experimental students showed better results on standard tests. In the present case, however, this hope is unrealistic in view of the excellence of the students who completed their studies in the control sections. Compared with the results on a national basis, the results obtained in the control section at the University of Akron are outstanding. It would be very difficult to surpass a 70 percentile class average.

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[6]) *Ibid.*

D. Structural Analysis of Free Speech and Writing

Other comparisons were made that are not evident through statistical comparison of test results. It was assumed that the students in the experimental section would demonstrate a greater spoken mastery of the basic grammatical patterns and a greater variety of patterns, since the program stressed the spoken language. The speeches based on the two picture series that formed part of the MLA test were therefore transcribed in order to permit their grammatical analysis. The transcription was made by an assistant who did not know which students were in the experimental group. The analysis was performed by another assistant majoring in French. The following categories were established: passé composé, futur, conditionel, imparfait, negative structures, infinitive structures, *que*-clauses with subjunctive, *que*-clauses with indicative, other subordinate clauses, direct object pronouns, indirect objects. Every correct use of one of these grammatical structures was listed and given a numerical value of one point. A similar analysis was made of the written dialogues the students composed as part of their writing test. The results of this analysis are presented in Table 4.

Table 4

	Mean speaking	Mean writing
Experimental	7.0	2.9
Control	2.2	2.7

Table 4 presents scores of experimental and control groups on the language analysis test. The experimental group scored higher on the speaking scale than did the control group ($P < .05$); relative scores on the writing scale are not statistically different.

The significantly higher speaking scores of the experimental group are in agreement with their higher MLT speaking scores. The MLT speaking test evaluates the student's accuracy in pronunciation, his fluency in oral reading, and his ability to communicate. The structural analysis reported above measures only the communicative skill and in particular, the ability to use and manipulate the structural signaling system which is essential for communication. The lexical items, which form the second element needed for communication, are completely disregarded. This measure therefore seems to be a sensitive index of language mastery. The ultimate goal of language teaching is to impart the ability to use varied syntactical structures automatically in a variety of contexts. Robot-like parroting of a language is a familiar criticism of the audio-lingual teaching method: the student can use only those dialogues or those patterns in context that he has memorized. The same criticism is raised against the programming method, though not by those who have had experience of it. On the contrary, it

is the objective of a well programmed language course to provide a learner with the basic patterns he will need in order to communicate in many different situations.

Table 4 shows that the experimental students have acquired a superior ability to use basic patterns in speech, if not in writing. They can express themselves with greater variety and accuracy than students in the control sections. This result is not surprising, since automaticity in the use of the French structures was one of the prime objectives of the program.

The fact that the experimental students are not able to transpose their automatic mastery of structure into writing indicates that they need more opportunity to write – if communication in writing is a primary objective. Such was not the case with the French program.

E. Correlation between Aptitude and Results

In traditional French courses, a positive correlation is found between a student's aptitude and his final results.

Table 5

Mean Percentile Scores Correlated with Aptitude, Control Group

Aptitude Percentile	Listen	Speak	Read	Write
99–70	75.5	83.6	78.7	65
65–40	73.6	82	67.8	49.5
35–10	65	68.8	54.8	53

No such correlation between aptitude and results can be established for the experimental students.

Table 6

Mean Percentile Scores Correlated with Aptitude, Experimental Group

Aptitude Percentile	Listen	Speak	Read	Write
99–70	53	82	46	53
65–40	59	83	38	42
35–10	67	85	57	56

Students with the lowest aptitude seem to have had acceptable or excellent results. The following table shows the individual scores of the ten students of lowest aptitude.

Table 7

Aptitude Percentile	Listen	Speak	Read	Write
15	42	84	50	87
15	69	94	63	81
15	87	99	78	100
15	80	99	32	81
20	27	76	50	46
20	56	57	63	67
25	60	73	43	10
30	84	98	68	67
30	96	97	81	93
35	71	73	43	33
MEAN	67.2	85	57.1	66.5

These results are of particular interest since only three out of the ten low-aptitude students had had prior experience with French.

The following conclusions may be drawn.

1. As it has been observed in the case of other programmed courses, the influence of individual differences in student aptitude are minimized. The chances of performing adequately are good for low-aptitude students in a programmed language course.

2. Since the majority of the low-aptitude students in the control group either dropped out or achieved only acceptable results, and since, moreover, half of those who did succeed had had prior experience with French, it would seem that the programming features of the course are the decisive elements to which the success of the low-aptitude students in the experimental group can be attributed.

It is interesting to note that almost all low-aptitude students perform rather well on the speaking test. In contrast to what one would expect, students of low language aptitude do not have inferior pronunciation or ability to communicate. These aspects of language are effectively taught through the program.

3. Of the twenty-two low-aptitude students originally enrolled in the experimental course, ten, or almost half, completed their program, whereas in the control sections only twenty per cent of the low-aptitude students finished.

4. The low-aptitude students who dropped out could probably have been helped if all the programming features could have been brought to bear upon them. In general, low-aptitude students do not receive reward from the confirmation features of the program. They need the teaching machine to give them a visual indication every time their response is correct. They also need the control of the machine to prevent them from cheating. The poorer students tend to look up the correct answer without making the effort to formulate the response; then they convince themselves that the given answer was the one they had had in mind

anyway. The poorer students often do not know how to use their time efficiently. A teaching machine, by controlling this element, can make learning less time-consuming.

The question why the high-aptitude students did not achieve results significantly superior to those of the low-aptitude students in the experimental section remains unanswered. It is well known from other programming experiments that aptitude and results stand in very low correlation. Perhaps the superior students are bored with the programming method and thus do not perform up to their full potential. If the display sessions were grouped homogeneously and the high-aptitude sections were offered more dialogue, conversation, reading and other activities that challenged their interest, they might perhaps be induced to greater effort.

It is not possible to establish any correlation between student aptitude and drop-outs in the experimental section. Students with high aptitude dropped out of the course just as frequently as those with average or low aptitude.

F. Drop-out Study

In analyzing drop-outs, we must omit the students in night sections. Some of them are not studying for a degree but simply taking a foreign language for reasons such as personal interest or business. Often family conditions or changed business plans or trips cause them to interrupt their work. The drop-out study, therefore, is based only on the day students.

Table 8

Drop Outs

	Enrolled	Finished	Per cent
Control	74	31	41.8
Experimental	27	16	59.2

Table 8 shows that a significantly greater ($P < .05$) percentage of experimental as compared with control students completed the first-year course.

The academic records of the drop-out students in both sections were examined: of the eleven experimental students who dropped out, seven had dropped over half their courses during the semester, while of the forty-three control students who dropped out the great majority had dropped only the French course. These figures would indicate that the programmed method itself is the reason why so few of the experimental students dropped the French course.

The fact that only 40 per cent did not complete the course compared to the 59 per cent in the control sections is still more significant if the emphasis on the oral performance in the experimental course is kept in mind. The Mueller-

Leutenegger study on drop-outs[7]) demonstrates that the emphasis on the oral aspects of the language drives many students away from the course. In the ALLP Program, more than half of the work must be done without visual help from the student booklet.

Comparing the number of experimental and control students who completed their second-year course strengthens the assertion that the French program adequately prepares students for further work in the language. Of the forty students originally enrolled in control sections of French, twelve (30%) continued on to complete the second year. Of the forty-two students originally enrolled in the experimental section, eighteen (42%) completed the second year.

French taught through a program thus retains students better than does the traditional classroom. The percentage of the students in the two groups who completed the second year of French is particularly significant.

Forty-two per cent of the experimental group were sufficiently satisfied with their French proficiency and sufficiently confident to continue into the second year and finish it. The difference in the control group between the figures for original enrollment and for second-year completion does not speak well for the traditional method's success in eliciting sustained effort from its students.

Summary of Conclusions

Trial use of the *Revised ALLP French Program* during the academic year 1964–65 proved to be successful on the college level. Although reliance on self-instruction has been reduced and a greater role assigned to the instructor, the program promises eventually to accommodate large classes at the elementary level of language instruction without affecting the quality of the results. It promises more efficient use of staff time, hence lower instructional costs.

Programmed foreign language instruction will make it possible to use graduate students, under proper guidance, for elementary language instruction. In a recent document the Modern Language Association took the position that graduate students should not be assigned to teach the first year of a foreign language course; elementary language learning, it was felt, requires the expert guidance of the master teacher. Since the *ALLP Revised French Program* is taking over teaching aspects that earlier devolved upon the instructor, it is hoped that graduate students will be just as successful with this program as the experienced teacher has been. Expert guidance of such graduate students will still be necessary, of course, but such guidance can now be provided in the form of a manual.

The second trial use suggests the following conclusions:

1. The *ALLP Revised French Program* reduced the rate of student drop-outs. Of those that dropped from the programmed course, the majority had dropped

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[7]) Mueller, Theodore and Leutenegger, Ralph. Some Inferences about an Intensified Oral Approach to the Teaching of French Based on a Study of Course Drop-outs. *MLJ*, 1964, 48, 91–94.

half or more of their other courses, while the great majority of the control students who dropped out dropped only French.

2. The drop-out rate of the low-aptitude students in the experimental sections was significantly lower than in the control sections.

3. All low-aptitude students who completed the course achieved good or excellent results, although it required more effort on their part. This result is a significant accomplishment of the program.

4. Relatively more experimental than control students completed the required second-year course. This is perhaps the one most significant feature of the French program.

5. All native American students, including those of low aptitude, achieved high speaking performance. Their performance was close to the stated goal of near-native pronunciation. However, some students who had started French in high school kept traces of an American accent they had acquired there.

6. The results obtained in first-year French by the experimental students are in all respects equal to those of the control students. In speaking ability, they surpassed the control students – as was to be expected in view of the program emphasis.

7. The poorer reading performance of the experimental group is illusory – an artifact of the vocabulary used in the MLA test.

8. As measured both on the MLA test and independently, the mastery of grammatical structures by the experimental students was superior to that of the control sections, both in variety and accuracy.

9. The results of the experimental students in the second year of French are equal to those in the control sections in every respect. The inferior reading performance noted at the end of their first year was fully corrected. Most of the students of the experimental group were placed in the honors section and competed successfully with the best second-year students in the reading and writing skills as well as in the oral skills.

10. No relationship between the linguistic aptitude and the performance of the experimental students could be found. Furthermore, the student's aptitude had little or no bearing on his perseverance in the course: an equal percentage of high- and low-aptitude students persisted or dropped out.

This study shows the feasibility of a self-instructional language program. However, a number of concessions to the communicative aspect of language had to be made. Self-instruction cannot be interpreted as learning contact between a student and his course materials alone. Some means must be provided for the student to use the language for oral communication with another speaker. Further research should be directed to the role of such a "conversationalist."

One of the moot questions of this study concerned the efficacy of an audio-lingual program, in which the student is conditioned to evaluate the accuracy of his own oral responses and thus receive confirmation when he compares his response with the model. The results obtained in the oral skills warrant an

affirmative answer. Regardless of student aptitude, speaking was uniformly excellent. However, in spite of these results, there was ample evidence that greater external control over student oral production, preferably by machine, is desirable. On the one hand, conditioning the student to the phonetic features is highly successful. On the other hand, much time is lost in needless trial-and-error in Part III, where the student is called upon to evaluate longer utterances. Self-confirmation of syntactical elements, which had initially been deemed easier than phonetic evaluation, proved unexpectedly difficult. One may have to insert additional discrimination frames for some students to help them judge which structures are correct and which not.

The use of teaching machines to control written responses is likely to prove valuable for those students for whom foreign-language learning is particularly difficult and time-consuming. Although the percentage of such "underachievers" is small, they merit special effort, as students who are often very successful in other fields of study.

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